An Automated Evaluation and Critiquing Aid for User Interface Design, Phase I
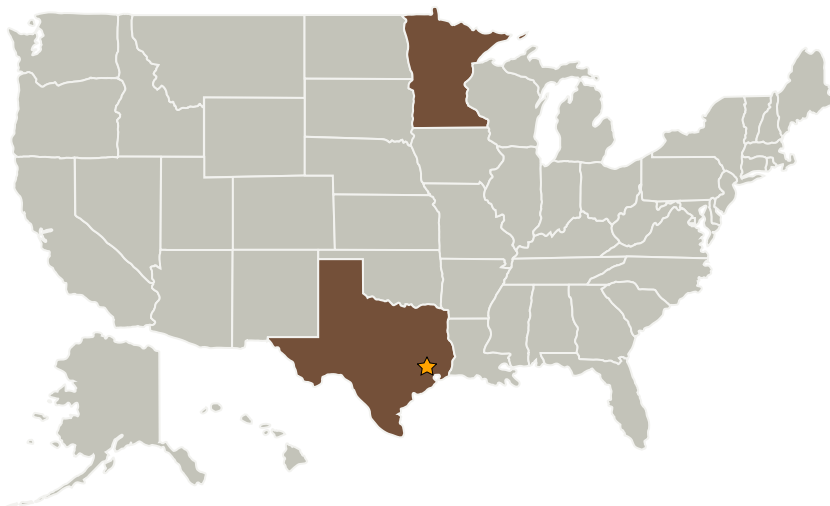
Completed Technology Project (2006 - 2006)

Project Introduction

We will leverage our prior work on Adaptive Information Management (AIM) to provide a core reasoning capability usable in a diverse set of tools to aid and assist in the review, design, evaluation and management of user interfaces (UIs). We have a task-linked information representation and associated algorithms for reasoning about the information needs of a set of user tasks, the information presentation capabilities of a set of devices and formats, and the degree of match between the two. These have served as the basis of multiple, successful AIM systems in the past, but within highly restricted domains. The proposed project will explore methods and required modifications for moving our core representation in innovative direction-? making it more interactive and subject to user guidance, applicable to a set of contexts of use rather than a current usage "slice", and capable of providing aiding across a broader set of domains. Substantial modifications to our core task representation and several new critiquing modules will likely be needed. Their design will open the doors for a variety of types of Multi-modal Aids for Interface Design (MAIDs). In particular, the proposed project will focus on designing a tool to evaluate human-designed procedure execution displays against users' tasks needs, and provide design feedback and advice.

Primary U.S. Work Locations and Key Partners

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Organizations Performing Work	Role	Type	Location
⭐Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
SIFT, LLC	Supporting Organization	Industry	Minneapolis, Minnesota

Primary U.S. Work Locations	
Minnesota	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  └ TX06.6 Human Systems Integration
    └ TX06.6.1 Human Factors Engineering